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ABSTRACT

The purpose of this study was to determine if the Primary Individualized Reading Divided Day (PRIMIR D/D) Program and the non-PRIMIR D/D approaches are effective in the Seattle school system; does the operation of the PRIMIR D/D program justify startup expenses and maintenance costs; is there reason for modifying, continuing, or eliminating the PRIMIR D/D or the non-PRIMIR D/D; and is the operation worthy of dissemination. The PRIMIR program is a method of individualizing the primary reading program through the use of a basal reader as a skills strand supplemented with paperback books and other reading materials to extend skills and efficiency. Over 600 first grade students participated in this experiment to determine the merits of individualized reading. Three experimental groups were formed: divided day with PRIMIR, divided day without PRIMIR, and a control group of similar socioeconomic and achievement level makeup. The results indicated the PRIMIR D/D students showed significant reading achievement gains over the non-PRIMIR students, who showed superiority over the control-traditional students. (WR)

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The PRIMIR Program

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1973

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ABSTRACT

Over 600 students in grade one participated in an experiment to determine the merits of individualized reading. This three group study compared the following: (1) PRIMIR divided day vs. (2) non-PRIMIR divided day vs. (3) control-traditional day. The PRIMIR program is a method of individualizing the primary reading program through the use of a basal reader as a skills strand supplemented with paperback books and other reading materials to extend skills and efficiency.

The PRIMIR divided day (PRIMIR D/D) students showed significant reading achievement gains over the non-PRIMIR divided day (Non-PRIMIR D/D) which showed superiority over the control-traditional.

PURPOSE OF THE STUDY

There is a growing body of evidence supporting individualized reading programs at all levels including the primary grades.[1] Much of the work, however, has been limited to an investigation of pacing.[2] Technique and method of presentation have been varied in other studies, but the content has generally been prescribed by the materials used. While in almost all cases, self-pacing has been superior to a group-paced basal approach, self-pacing alone can hardly be called individualized reading.[3]

The definition of individualized reading for this study included at least two elements. The first was establishment of a one-to-one relationship between teacher and student, and the second was that self-selection of reading materials and self-determination of the pace with which the materials were to be consumed was essential. Prescriptive teaching was kept to a minimum and utilized only at a specific moment of need. These two elements were implemented as much as possible within the framework of the existing school system.

This evaluation was conducted to determine the following: (1) Are the PRIMIR D/D and non-PRIMIR D/D program approaches effective in the Seattle School System? (2) Does the operation of the PRIMIR D/D program justify startup expenses and maintenance costs? (3) Is there reason for continuing, modifying, or eliminating the PRIMIR D/D and/or the non-PRIMIR D/D in the Seattle School System? (4) If the operation is a valid process, is it worthy of dissimination to other areas?

HYPOTHESES

Based on the foregoing questions the following separate hypotheses were stated in the null form for research purposes.

1. There will be no significant differences in reading achievement, as measured by the criterion test, in word knowledge, word analysis, reading, and total reading between children enrolled in the experimental PRIMIR D/D program and those enrolled in a more traditional group-paced basal oriented or control program.
2. There will be no significant differences in reading achievement, as measured by the criterion test, in word knowledge, word analysis, reading, and total reading between children enrolled in the experimental PRIMIR D/D and those enrolled in a non-PRIMIR D/D.
3. There will be no significant differences in reading achievement, as measured by the criterion test, in word knowledge, word analysis, reading, and total reading between the children enrolled in a non-PRIMIR D/D program and those enrolled in a more traditional group-paced basal oriented control program.
4. There will be no significant differences in achievement by sex, as measured by the criterion test, in word knowledge, word analysis, reading, and total reading between the children enrolled in the PRIMIR D/D program.
5. There will be no significant differences in achievement by sex, as measured by the criterion test, in word knowledge, word analysis, reading, and total reading between the children enrolled in the non-PRIMIR D/D program.

In an attempt to determine the affective results of the PRIMIR and D/D programs, an attitude survey was constructed and administered to parents, teachers, and administrators connected with the programs. Questions for which answers were sought are stated below:

1. Did parents feel positively or negatively toward either the PRIMIR program or the D/D schedule?
2. Did teachers and administrators feel the PRIMIR program and/or D/D schedule to be of value to the childrens' reading program?

DESCRIPTION OF THE PRIMIR PROGRAM

The PRIMIR approach to reading was designed for use in a self-contained classroom with the basal reader used only for sequencing of decoding skills. Through a learning stations organization children self-selected their own reading materials, related games, and other reading activities, engaged themselves and were assigned to individual projects, group activities, and conferences with the teacher.

One very vital aspect was the process of total group instruction. The PRIMIR teacher presented a total group lesson emphasizing a group needed skill. The concept or lesson presented was geared to the top readers. Once this brief lesson was completed, the children were scheduled into one of several activities such as specific follow-up or reinforcement work, but more often than not, the children were released for self-selection activities.

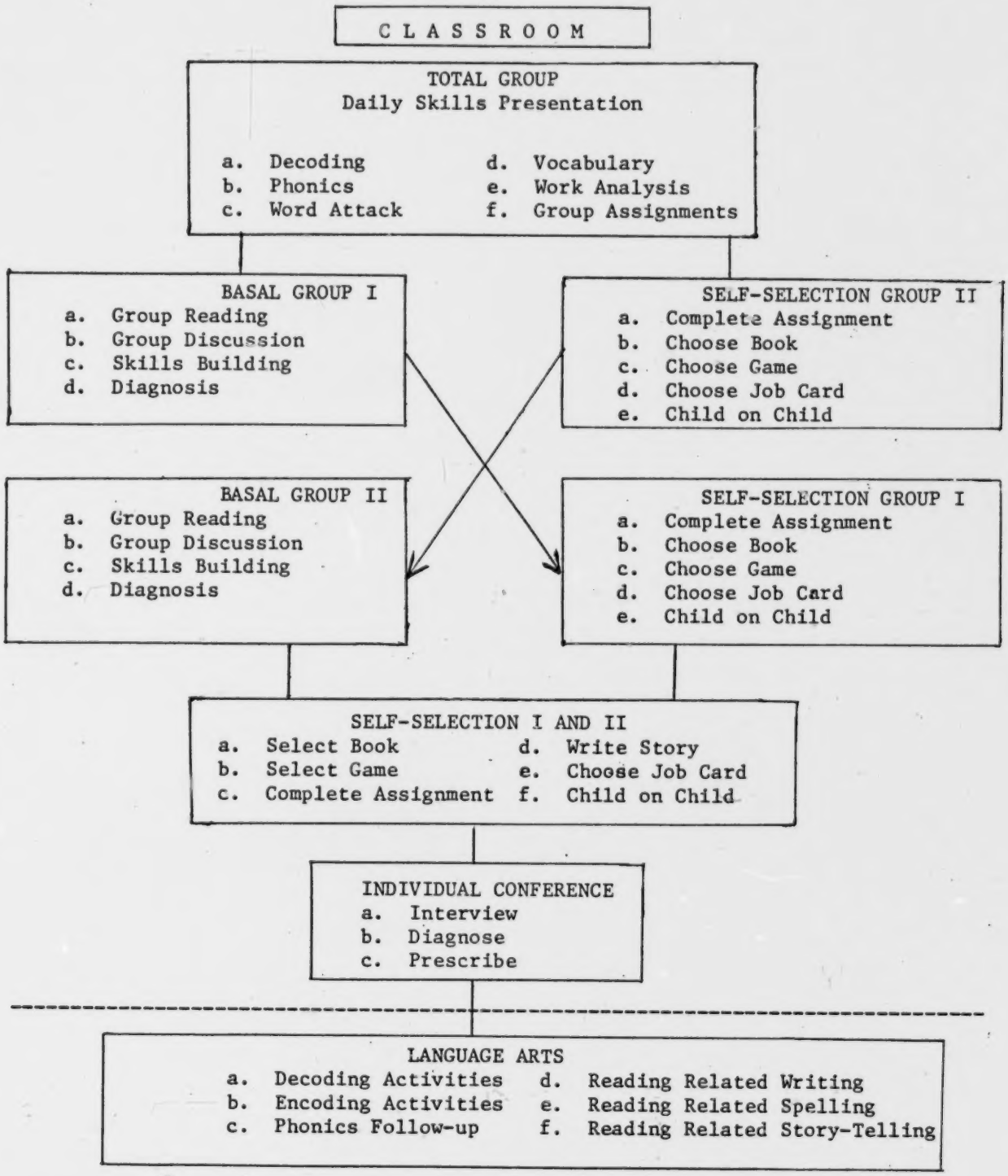
A basal group process solved the need to work with specific children with specific needs at a specific time. Small groups were formed on a daily basis with membership constantly changing. These groups met with the teachers for concept developmental reading and decoding practice, for progress checks, and for practice in comprehension skills. The basal group was designed to keep all children involved at all times as opposed to the traditional round robin reading.

Following small group sessions the teacher met with individual children on a regular rotating basis for personal conferences. Teachers were trained in specific conferencing techniques based upon Barrett's Taxonomy of Cognative and Affective Dimensions of Reading Comprehension.[4] This method of conferencing permitted the teacher to determine the child's basic skill in reading and the emotional response which the child experienced relative to the content of the material read. Depending upon the child's responses, goals were established and mutually agreed upon by teacher and confree, and prescriptions were made when indicated.[4]

All "phonics" teaching was done by adapting the basal reader "phonics" to an approach labeled Graphonemes.[5] The graphoneme, or closed syllable is a natural element of the English language and as such does not require memorizing a set of difficult rules for mastery.

The following schematic indicates the elements presented in the PRIMIR program.

CONCEPTUAL SCHEMATIC FOR SCHEDULING
INDIVIDUALIZED READING PROGRAM AT PRIMARY LEVEL
DIVIDED DAY SCHEDULE



From the schematic the management of the PRIMIR classroom can be illustrated, and while the order of the presentations may change with varying conditions, the elements were considered essential for success. First, total group instruction took place in a fast, animated way in a visual and oral mode. This served to help children hear the skill being taught in a repetative, noisy, foremat. Out of the total group, certain children were assigned to the basal group while others formed the self-selection group. The next move was to bring the self-selectors into the basal setting and to send the original basals to the self-selective activity. Finally, all children self-selected while the teacher conferenced with those who were scheduled for that day. Each child received an individual conference at least once each week on the divided day schedule. Many of the encoding and follow-up exercises were repeated or assigned to the language arts period since phonics and decoding skills were so closely related to spelling and writing.

In the reading period, uninterrupted sustained silent reading (USSR) was practiced each day and came anywhere it fited into the schedule. The entire program was designed to involve each child in an intensive and continuous reading session with every activity related directly to the reading act. Workbooks were eliminated except in special cases and special prescriptive materials were substituted when needed. Since all children were so deeply involved, prescriptions were required in very few cases. The object of the PRIMIR program was to encourage and even gently persuade every child to read and read and read.

DESCRIPTION OF CONTROL-TRADITIONAL PROGRAM

It is an oversimplification to state that the traditional program was a basal-oriented program, but in general the traditional classes used a basal reader for skills sequencing and for practice reading. Most sessions were taught in ability groups followed by assignments in workbooks or with dittoed sheets. The library provided parallel or companion reading materials which was essentially the only self-selected reading materials available to the children. In every case the reading session was held during the first period of the morning and lasted from sixty to ninety minutes. There were undoubtedly other related activities during the day but for the most part this first session constituted the formal reading portion of the day.

DIVIDED DAY SCHEDULE

A divided day schedule is nothing more than a juggling of the daily schedule to permit reduction of numbers of children in the reading group. The main objective for installing such a schedule in the study was to provide more time for individualization with each child. Since the total class was so small, there was little reason to have permanent groups. Schools that followed this schedule and operated the PRIMIR program were designated PRIMIR D/D. A schematic of the divided day schedule follows (times are SUGGESTIVE only).

8:40 a.m.		
8:50 a.m.		Morning group arrives
9:50 a.m.		A.M. Reading program
10:00 a.m.		Recess - Second group arrives
12:00		Morning activities for entire class -- language arts, P.E., mathematics, art, social studies, music
12:30 p.m.		Lunch
2:15 p.m.		Afternoon activities for entire class -- language arts, P.E., mathematics, art, social studies, music
2:25 p.m.		Break - Morning group goes home
3:25 p.m.		P.M. Reading program

For this study there were several schools and classes utilizing the divided day schedule without benefit of the PRIMIR techniques, materials, and organization. This group formed the second experimental section, and has been designated non-PRIMIR D/D.

Population Sample

The Seattle School District is situated in a typical urban setting with a central city, a downtown area, a waterfront, several industrial sections, and residential areas ranging from new to old and from quite inexpensive to very affluent. The student population is multi-ethnic and is representative of all socio-economic strata of the city. Because of the cultural makeup of the city, it is assumed that this study reflects achievement scores from a broad social and ethnic mix representative of most large urban areas in this country. The sample consisted of all students enrolled in the PRIMIR D/D and non-PRIMIR D/D programs in grade one and with a comparable control group from more formal, traditional classrooms and schools. No attempt was made to alter the control group programs except to obtain teacher permission to participate as a control classroom.

Test Instruments

The criterion measure was the Metropolitan Achievement Test, Form F for the pretest and Form G for the posttest.[6] An attitude survey was administered to parents, to school teachers and administrators of the PRIMIR D/D and non-PRIMIR D/D only.

Research Design

This was essentially a three group, two cell study. The three groups were divided day with PRIMIR, divided day without PRIMIR, and control groups of similar socio-economic and achievement level makeup. The first two groups were considered experimental and the latter control. For analysis, the groups were equated by criterion subtest, by criterion subtest and sex, and by time in program.

In the final analysis the only subjects included were those for whom complete data was available after posttesting. A breakdown of the numbers of subjects for whom complete data was available follows:

	Boys			Girls			
Grade	PRIMIR D/D	Non-PRIMIR D/D	Control Tradit.	PRIMIR D/D	Non-PRIMIR D/D	Control Tradit.	TOTAL
1	128	59	153	127	70	128	665

There were 18 experimental classes, 21 control classes and 21 schools involved.

Control of Variables

Every attempt was made to control and account for variables, both external and internal, through a series of consistent, periodic visits to each center by the principle investigator and a specially trained assistant. Reasonable integrity within and between experimental groups was maintained. All PRIMIR D/D teachers involved in the program had received special training and had agreed to follow procedures outlined in the PRIMIR manual.

Students were assigned to PRIMIR D/D classes on a heterogeneous basis and school principals cooperated whenever possible to maintain even class loads, sex distributions, and ethnic balance. While randomization of experimental groups was not possible, an examination of locations on the basis of ethnic mix and socio-economic level indicated a balanced sample. Controls were selected to match experimentals on the same basis.

Procedures of Analysis

A t-test was used to determine the comparability of groups based on the reading pretest. Where significant differences were indicated, the BMD 04V program of covariance was used to analyze results. Covariance was required only with one group and one subscore. The BMD 01V program of analysis of variance was used to analyze all other data. Raw scores were used in all cases.

Tests for significance were run on gain scores as determined by subtracting pretest scores from posttest scores with final results reported in mean gains, or adjusted mean gains depending upon the program selected for analysis.

Because the time variable could not be controlled between experimental and control groups, the experimental groups were broken down into those students who had been in the PRIMIR D/D and non-PRIMIR D/D for one-half to one year and for less than one-half year. All control-traditional groups were tested at the one year mark.

An attitude survey was constructed, administered, and scored by hand. The survey attempted to determine parental like or dislike of the PRIMIR and divided day schedule. The survey was sent only to parents of the experimental groups and responses totaled.

A similar questionnaire was given to faculty members in the PRIMIR D/D schools in an attempt to survey the impact of the PRIMIR D/D program upon the total school staff.

Findings

The Metropolitan Achievement test measures four skills; (1) word knowledge, (2) word analysis, (3) reading, and (4) total reading. Pretests were administered in October 1971 and posttests were given the last week of April and the first week of May, 1972.

The following table, Table 1, breaks the analysis into mean gain scores for both the PRIMIR D/D .05 to 1 year and 0.0 to 0.5 year sub-groups vs. the control group and indicates the direction of gain.

Table 1 Total PRIMIR Divided Day vs. Total Control Traditional Day Reading Scores

Mean Gain Scores and Direction of Growth

Grade 1

WORD KNOWLEDGE

Grade	PRIMIR D/D In Operation	PRIMIR D/D Mean Gain Score	Control In Operation	Control Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	9.9338	1 Year	13.423	3.4897	Traditional	S @ .05 & .01
1	0.0-0.5 Year	13.702	1 Year	13.423	0.279	PRIMIR D/D	NS @ .05

WORD ANALYSIS

Grade	PRIMIR D/D In Operation	PRIMIR D/D Mean Gain Score	Control In Operation	Control Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	11.570	1 Year	14.135	2.565	Traditional	S @ .05 & .01
1	0.0-0.5 Year	16.923	1 Year	14.135	2.788	PRIMIR D/D	S @ .05 & .01

READING

Grade	PRIMIR D/D In Operation	PRIMIR D/D Mean Gain Score	Control In Operation	Control Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	23.325	1 Year	17.911	5.414	PRIMIR D/D	S @ .05 & .01
1	0.0-0.5 Year	20.856	1 Year	17.911	2.945	PRIMIR D/D	S @ .05

TOTAL READING

Grade	PRIMIR D/D In Operation	PRIMIR D/D Mean Gain Score	Control In Operation	Control Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	33.265	1 Year	31.335	1.930	PRIMIR D/D	NS @ .05
1	0.0-0.5 Year	34.558	1 Year	31.335	3.223	PRIMIR D/D	NS @ .05

Note that gains favored the PRIMIR D/D in all but two subtests with significance achieved for the 0.0-0.5 year group in word analysis and for both groups in reading. The traditional 1.0 group made significant gains in word knowledge and word analysis. In the remaining subtests, the PRIMIR D/D groups scored higher than the traditional but not significantly so.

Table 2 breaks down the analysis into mean gain scores for both PRIMIR D/D 0.5 to 1.0 year and 0.0 to 0.5 year subgroups vs. the non PRIMIR D/D and indicates the direction of gains.

Table 2 Total PRIMIR Divided Day vs. Total Divided Day Non PRIMIR Reading Scores

Mean Gain Scores and Direction of Growth

Grade 1

WORD KNOWLEDGE

Grade	PRIMIR D/D In Operation	PRIMIR D/D Mean Gain Score	Non PRIMIR D/D In Operation	Non PRIMIR D/D Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	9.9338	1 Year	11.8760	1.9422	Non PRIMIR D/D	S @ .05
1	0.0-0.5 Year	13.7524*	1 Year	11.8353*	1.9171	PRIMIR D/D	S @ .05

WORD ANALYSIS

Grade	PRIMIR D/D In Operation	PRIMIR D/D Mean Gain Score	Non PRIMIR D/D In Operation	Non PRIMIR D/D Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	11.570	1 Year	13.581	2.011	Non PRIMIR D/D	S @ .05
1	0.0-0.5 Year	16.9295*	1 Year	13.5762*	3.3533	PRIMIR D/D	S @ .05 & .01

READING

Grade	PRIMIR D/D In Operation	PRIMIR D/D Mean Gain Score	Non PRIMIR D/D In Operation	Non PRIMIR D/D Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	23.325	1 Year	13.519	9.806	PRIMIR D/D	S @ .05 & .01
1	0.0-0.5 Year	19.4725*	1 Year	14.6346*	4.8379	PRIMIR D/D	S @ .05 & .01

TOTAL READING

Grade	PRIMIR D/D In Operation	PRIMIR D/D Mean Gain Score	Non PRIMIR D/D In Operation	Non PRIMIR D/D Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	33.265	1 Year	25.434	7.831	PRIMIR D/D	S @ .05 & .01
1	0.0-0.5 Year	33.9435*	1 Year	25.9293*	8.0142	PRIMIR D/D	S @ .05 & .01

*Mean gain score adjusted by analysis of covariance.

The PRIMIR D/D 0.0 to 0.5 year subgroup made significant gains in the subtests of word knowledge, word analysis, reading and total reading. The PRIMIR D/D 0.5 to 1.0 year subgroup achieved significance in the subtests of reading and total reading while the non PRIMIR D/D achieved significance in word analysis and word knowledge.

Table 3 lists the data for non-PRIMIR D/D and the control groups. The non-PRIMIR D/D group obtained significance in the subtests of word analysis, reading, and total reading and while indicating superiority in word knowledge, the gain was non-significant.

Table 3 Total Non-PRIMIR D/D vs. Total Control-Traditional Reading Scores

Mean Gain Scores and Direction of Growth

Grade 1

WORD KNOWLEDGE

Grade	Non PRIMIR D/D	Non PRIMIR D/D Mean Gain Scores	Control Schedule	Control Mean Gain Score	Difference	Direction	Significance
1	1 Year	13.512	1 Year	13.423	0.089	Divided Day	NS @ .05

WORD ANALYSIS

Grade	Non PRIMIR D/D	Non PRIMIR D/D Mean Gain Scores	Control Schedule	Control Mean Gain Score	Difference	Direction	Significance
1	1 Year	16.802	1 Year	14.135	2.667	Divided Day	S @ .05 & .01

READING

Grade	Non PRIMIR D/D	Non PRIMIR D/D Mean Gain Scores	Control Schedule	Control Mean Gain Scores	Difference	Direction	Significance
1	1 Year	22.384	1 Year	17.911	4.473	Divided Day	S @ .05 & .01

TOTAL READING

Grade	Non PRIMIR D/D	Non PRIMIR D/D Mean Gain Scores	Control Schedule	Control Mean Gain Scores	Difference	Direction	Significance
1	1 Year	35.895	1 Year	31.335	4.560	Divided Day	S @ .05

DISCUSSIONS OF THE FINDINGS

The data indicated that the PRIMIR D/D was superior to both of the other approaches or schedules for teaching reading to first grade children. The difference was significant at the .05 and in some cases at .01 level.

The only reversal of significance for PRIMIR D/D occurred on the subtest of word knowledge and word analysis, and only then for the groups which had been in the program for one-half to one year. It is feasible to assume that the first graders who remained rigidly assigned to a basal reader gained more mechanical decoding skills in the latter part of the year. The PRIMIR groups, however, did not require the constant input of sequenced phonic skills, since their reading skills were built more through practice in reading than in drill on phonics. Thus the PRIMIR children did not score as well on the synthetic portion of the test as did the controls. At the beginning of the year the children were more equal and the graphoneme approach permitted the PRIMIR subjects to spurt ahead of their counterparts in the decoding skills.

In general the PRIMIR D/D was superior to the non-PRIMIR D/D which was superior to the traditional schedule and total basal approach. The conclusion was drawn that the divided day schedule was a decided factor where significance occurred.

Discussion of the Findings by Sex, Schedule, and Program

An examination of the findings by sex leads to the tentative conclusion that PRIMIR D/D and non-PRIMIR D/D was equally effective for both groups. Both groups afford equal opportunity to boys and girls. Since boys generally lag behind girls in academic work, it was gratifying to find a program that at least permitted boys to maintain a comparable rate of reading growth.

Table 4 contains data on boys vs. girls in the PRIMIR D/D and table 5 details similar information on boys vs. girls in non-PRIMIR D/D.

Table 4 Total PRIMIR Divided Day Boys vs. Girls

Mean Gain Scores and Direction of Growth

Grade 1

WORD KNOWLEDGE

Grade	PRIMIR D/D In Operation	Boys Mean Gain Score	Girls Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	9.580	10.232	0.652	Girls	NS @ .05 & .01
1	0.0-0.5 Year	12.797	14.889	2.092	Girls	NS @ .05 & .01

WORD ANALYSIS

Grade	PRIMIR D/D In Operation	Boys Mean Gain Score	Girls Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	11.319	11.780	0.461	Girls	NS @ .05 & .01
1	0.0-0.5 Year	16.661	17.267	0.606	Girls	NS @ .05 & .01

READING

Grade	PRIMIR D/D In Operation	Boys Mean Gain Score	Girls Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	21.217	25.098	3.881	Girls	S @ .05
1	0.0-0.5 Year	19.593	22.511	2.918	Girls	NS @ .05 & .01

TOTAL READING

Grade	PRIMIR D/D In Operation	Boys Mean Gain Score	Girls Mean Gain Score	Difference	Direction	Significance
1	0.5-1 Year	30.812	35.329	4.517	Girls	S @ .05
1	0.0-0.5 Year	32.390	37.400	5.010	Girls	NS @ .05 & .01

Table 5 Total Divided Day Boys vs. Girls

Mean Gain Scores and Direction of Growth

Grade 1

WORD KNOWLEDGE

Grade	Non PRIMIR D/D In Operation	Boys Mean Gain Score	Girls Mean Gain Score	Difference	Direction	Significance
1	1 Year	14.550	12.609	1.941	Boys	NS @ .05

WORD ANALYSIS

Grade	Non PRIMIR D/D In Operation	Boys Mean Gain Score	Girls Mean Gain Score	Difference	Direction	Significance
1	1 Year	17.725	16.000	1.725	Boys	NS @ .05

READING

Grade	Non PRIMIR D/D In Operation	Boys Mean Gain Score	Girls Mean Gain Score	Difference	Direction	Significance
1	1 Year	23.050	21.804	1.246	Boys	NS @ .05

TOTAL READING

Grade	Non PRIMIR D/D In Operation	Boys Mean Gain Score	Girls Mean Gain Score	Difference	Direction	Significance
1	1 Year	37.600	34.413	3.187	Boys	NS @ .05

ANALYSIS BY QUARTILES

One additional analysis was made in an attempt to determine whether the PRIMIR D/D, non-PRIMIR D/D or control programs produced a particular advantage in reading achievement for the groups tested. All groups were divided into quartiles by schedule with the lowest twenty-five percent falling into quartile one and the highest twenty-five percent falling into quartile four, bases on pretest scores. Table 6 lists the mean gain scores for control vs. PRIMIR D/D; Table 7 contains similar data for non-PRIMIR D/D vs. PRIMIR D/D, and table 8 is a repeat for data on control vs. non-PRIMIR D/D.

Table 6 Quartile Summary

Raw Mean Gain Scores

Control vs. PRIMIR D/D

WORD KNOWLEDGE

Grade	PRIMIR D/D Schedule	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			PRIMIR D/D	Control	PRIMIR D/D	Control	PRIMIR D/D	Control	PRIMIR D/D	Control
1	0.5-1 Year	1 Year	11.526	12.785*	14.325	16.535*	10.684	14.843*	3.316	9.486*
1	0.0-0.5 Year	1 Year	15.384*	12.785	16.307	16.535*	14.770	14.843*	8.346	9.486*

WORD ANALYSIS

Grade	PRIMIR D/D Schedule	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			PRIMIR D/D	Control	PRIMIR D/D	Control	PRIMIR D/D	Control	PRIMIR D/D	Control
1	0.5-1 Year	1 Year	12.895*	11.686	15.270	16.718*	13.448	16.028*	4.763	12.071*
1	0.0-0.5 Year	1 Year	18.692*	11.686	19.577*	16.718	17.923*	16.028	11.500	12.071*

READING

Grade	PRIMIR D/D Schedule	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			PRIMIR D/D	Control	PRIMIR D/D	Control	PRIMIR D/D	Control	PRIMIR D/D	Control
1	0.5-1 Year	1 Year	14.131*	9.115	22.271*	16.338	30.552*	23.715	26.316*	22.500
1	0.0-0.5 Year	1 Year	12.577*	9.115	18.808*	16.338	26.692	23.715	25.346*	22.500

TOTAL READING

Grade	PRIMIR D/D Schedule	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			PRIMIR D/D	Control	PRIMIR D/D	Control	PRIMIR D/D	Control	PRIMIR D/D	Control
1	0.5-1 Year	1 Year	24.632*	19.800	35.460	31.409	42.079	40.000*	30.947	34.129*
1	0.0-0.5 Year	1 Year	27.115*	19.800	33.115*	31.409	41.846*	40.000	36.154*	34.129

*Higher Score

Table 7 Quartile Summary

Raw Mean Gain Scores

Non PRIMIR D/D vs. PRIMIR D/D

WORD KNOWLEDGE

Grade	PRIMIR D/D Schedule	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D
1	0.5-1 Year	1 Year	11.526*	9. 750	14.325	15.875*	10.684	14.484*	3.316	7.312*
1	0.0-0.5 Yr.	1 Year	15.384*	9.750	16.307*	15.875	14.770*	14.484	8.346*	7.312

WORD ANALYSIS

Grade	PRIMIR D/D Schedule	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D
1	0.5-1 Year	1 Year	12.895*	8.750	15.270	17.281*	13.448	17.969*	4.763	10.188*
1	0.0-0.5 Yr.	1 Year	18.692*	8.750	19.577*	17.281	17.923*	17.969	11.500*	10.188

READING

Grade	PRIMIR D/D Schedule	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D
1	0.5-1 Year	1 Year	14.131*	6.125	22.271*	9.031	30.552*	19.818	26.316*	18.906
1	0.0-0.5 Yr.	1 Year	12.577*	6.125	18.808*	9.031	26.692*	19.818	25.346*	18.906

TOTAL READING

Grade	PRIMIR D/D Schedule	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D	PRIMIR D/D	Non-PRIMIR D/D
1	0.5-1 Year	1 Year	24.632*	13.562	35.460*	23.375	42.079*	35.909	30.947*	28.562
1	0.0-0.5 Yr.	1 Year	27.115*	13.562	33.115*	23.375	41.846*	35.909	36.154*	28.562

* Higher Score

Table 8 Quartile Summary

Raw Mean Gain Scores

Control-Traditional vs. Non-PRIMIR D/D

WORD KNOWLEDGE

Grade	Non-PRIMIR D/D	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control
1	1 Year	1 Year	16.571*	12.785	16.864*	16.535	13.476	14.843*	7.273	9.486*

WORD ANALYSIS

Grade	Non-PRIMIR D/D	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control
1	1 Year	1 Year	18.76[illegible]*	11.686	19.728*	16.718	17.524*	16.028	11.318	12.071*

READING

Grade	Non-PRIMIR D/D	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control	NonPRIMIR D/D	Control	Non-PRIMIR D/D	Control
1	1 Year	1 Year	16.524*	9.115	24.772*	16.338	28.905*	23.715	19.363	22.500*

TOTAL READING

Grade	Non-PRIMIR D/D	Control Schedule	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
			Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control	Non-PRIMIR D/D	Control
1	1 Year	1 Year	31.714*	19.800	41.227*	31.409	42.810 *	40.000	27.955	34.129*

* Higher Score

In general, the quartile breakdowns were favorable for PRIMIR D/D and non-PRIMIR D/D when compared to the control program and schedule. When PRIMIR D/D was compared to control, the PRIMIR program fared well in the lower quartiles while gains were mixed in the upper two. When PRIMIR was compared to non-PRIMIR the PRIMIR program was reasonably strong in all quartiles. When non-PRIMIR was measured against control, non-PRIMIR was strong in all quartiles except the top where the situation was reversed.

None of the findings were tested for significance and thus cannot be generalized. However, the indication is that PRIMIR D/D and non-PRIMIR D/D serves the slower reader quite well. Since the other end of the spectrum was mixed, no such claim can be made. It is well to note that it appears that PRIMIR is at least as valid and probably offers more opportunity for all levels of reading ability than a traditionally basal oriented program.

Attitude Survey

An attitude survey was designed for parents of the students involved in the divided day program whether PRIMIR or non-PRIMIR. The purpose was to sample feelings about the schedule change brought about by the divided day operation. Table 9 lists the responses from the questionnaire.

Table 9

Parents Survey April, 1972

PRIMIR D/D

Not all questions were answered on all surveys which were returned. The survey questions are listed below with the percentage applicable for each level.

1. My child is in a Divided-Day Program.

Yes	No
93.9%	6.1%

2. Has your child ever been in a traditionally scheduled reading program?

Yes	No
49.0%	51.9%

3. My child is learning to read up to his/her potential.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
32.1%	46.8%	15.4%	4.9%	0.8%

4. My child is learning to read better this year than in previous years.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
22.2%	47.3%	24.3%	5.1%	1.1%

5. I would prefer to have my child learning to read under a traditionally scheduled reading program.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
7.1%	12.3%	25.7%	34.0%	20.9%

6. Has the Divided-Day approach caused an at-home scheduling problem for you?

Yes	Undecided	No
24.2%	5.9%	69.9%

Question 7 was: "Please make any comments that you feel are important about the Divided-Day Reading Program." Of the 887 questionnaires returned, 294 had written comments on them. These comments were categorized as follows?

Expand Divided-Day to more grades (1-6)	5.1%
Like the increased individual attention	13.6%

Use the Divided-Day for other subjects	0.7%
Other	80.6%

The 294 comments were also examined to see whether the comments were favorable or unfavorable towards the program. This breakdown was:

Favorable	Unfavorable
72.9%	27.1%

The biggest single item common to the unfavorable comments was scheduling problems for working parents.

DISCUSSION OF THE ATTITUDE SURVEY

Among the more revealing responses in the survey, question number four had a 69% favorable response, and question five indicated a considerable desire to retain the divided day schedule.

The largest complaint by parents was that home scheduling created problems if children in the primary and intermediate grades were on different schedules or if the parents were working. Overall the parent assessment of the PRIMIR D/D and non-PRIMIR D/D was very positive. Although the return rate was low, it is assumed that the most interested, both positive and negative, did respond.

In addition to the parent survey a questionnaire was prepared and submitted to teachers and principals who had knowledge or were assigned to buildings where the PRIMIR D/D only was in operation. The tables of data are not included for space conservation. Undoubtedly, this survey sampled a biased population since the teachers and administrators involved were pioneers in the movement. The strongly favorable response indicated their dedication to making the program work. Sufficient research has found enthusiasm and dedication coupled with some degree of talent to be highly correlated with program success.

Conclusions

Based upon the foregoing information and analyses, the following conclusions were drawn about the operation of the PRIMIR D/D and non-PRIMIR D/D programs.

1. For the total population enrolled in the PRIMIR D/D program in grade one during school year 1971-72, general and overall gains favored the PRIMIR D/D approach in reading achievement over both the traditional day and non-PRIMIR D/D. It was concluded that PRIMIR D/D was superior to the other two approaches.
2. When non-PRIMIR D/D was compared to the control-traditional day it was concluded that the non-PRIMIR D/D was significantly superior, thus

implying that the divided day schedule is a definite factor in reading achievement for first grade.

3. A comparison by sex of the PRIMIR D/D and non-PRIMIR D/D revealed mixed results leading to the conclusion that neither proved significantly superior but the fact that boys kept pace was encouraging.
4. Attitudinal surveys indicated favorable responses by both parental and teaching groups and since attitudes of adults may be a key factor in teaching children to read, it was concluded that the PRIMIR program and the divided day schedule holds much promise for program planning.
5. Overall, it was concluded that the PRIMIR D/D was superior to non-PRIMIR which was superior to control-traditional, and the results should be replicable at the .05 level of significance under similar circumstances.
6. Relative to the hypotheses, the following decisions were made:
   (a) Hypothesis number one was partially rejected.
   (b) Hypothesis number two was partially rejected.
   (c) Hypothesis number three was partially rejected.
   (d) Hypotheses four and five were accepted.

Relative to the questions initially asked, it can be stated without reservation that the program outcomes justify startup and maintenance costs; there is reason for continuing the program and it is certainly worthy of dissimination.

STRENGTHS AND WEAKNESSES OF THIS STUDY

Obviously any study which deals with so many variables cannot be controlled as rigidly as desired in the name of pure research. However, there were some positive aspects.

1. Each group class was independent of contamination from similar groups or activities.
2. The PRIMIR divided day teachers were all trained in accordance with the tenets of the PRIMIR program.
3. The setting was urban, reflected all socio-economic levels, almost all ethnic groups, and included all the problems that are generally found in most large cities.
4. All possible controls were exerted through constant supervision of the PRIMIR program by the experimenter and other staff members.

Shortcomings of the study were as follows:

1. Because of the inability to precisely control all variables there may be a question about the use of rigid parametric tests as opposed to some other more defensible non-parametric statistic. The decision here was based upon convenience more than purity.
2. While consistent supervision was exerted, it was not a constant day-by-day routine, and the integrity of the teaching process depended largely upon the skill and concern of the individual teachers and principals involved.
3. The Metropolitan Achievement Test, Primary I, left something to be desired as a criterion instrument for students starting in Grade One.
4. Because this was the first year of expansion for the PRIMIR program, many teachers were kept busy learning new routines and preparing new materials which may have detracted somewhat from exemplary classroom performance, although this may have created a Hawthorne effect as well.

5. While the numbers of students were adequate for the purposes and goals of this study, they must be considered minimal at best.
6. The study covered general findings which may or may not reflect individual progress, problems, and failings.
7. Attitude surveys must always be viewed with suspicion even when normed and validated. Tests such as those devised for this study have utility in that they indicate a subjective trend or opinion. The reliability and validity of both instruments is open to challenge.

RECOMMENDATIONS

There are many recommendations that could be made but only two will be stated here. First there is a need for replication and to follow these children for several years to determine the permanency of the gains, and this is being done at the time of this writing. Second, there is a need to separate out the variables that were the most beneficial since obviously the program and the schedule were intermingled. Perhaps this is a moot point, but the argument about class size being inconsequential may not be valid since some of PRIMIR D/D gains may well be due to the small reading classes. On the other hand, it may be the added emphasis which this program gave to the reading program of these first graders. The next study following this could attempt to isolate these elements.

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